Workshops Summary

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Three workshop sessions were held, with nine questions posed to help focus the discussions. Participants were encouraged to formulate recommendations on the basis of the presentations and discussions at the plenary sessions as well as at the workshops.

SESSION 1

Question 1: Should not-for-profit agencies, institutions and universities actively focus on economic and workforce development as part of their mission?

- Whether we believe that to be part of a university's mission or not, people who are supporting public universities are increasingly expecting it in return for investing in universities. Taxpayers support public universities and may expect a return in the form of economic development.
- Different parts of universities are affected in different ways. Certain colleges, certain departments, are on the firing line. Others see little impact on their faculty activities.
- The land-grant institution may be viewed as a three-legged stool with teaching, research and extension. Some see economic development as a logical fourth leg which should be encouraged via legislation.
- In California, specific economic workforce development occurred at the community college level after it was mandated by law in the mid-1990s.

Question 2: Have not-for-profit agencies, institutions and universities made an economic impact in the international, national, state, and local economies by creating new technologies/products/information?

- Although there is an inextricable link between new knowledge generated in universities and the harnessing of that knowledge to create economic growth and we should do everything we can to foster economic growth, the university's fundamental mission should not change: to educate, to expand knowledge through research, and to provide service. Economic development is part of the service.
- Economic impact should be a "side-product" of universities; consideration should more commonly be given by faculty to formal relationships with specialists in economic development.
- The traditional land-grant procedure is to give away technologies and not protect intellectual property. It needs to be redefined. Disagreement continues over the new model, the degree to which new knowledge should be channeled carefully and deliberately via protecting intellectual property.
- Many faculty lack the skills to convert research discoveries into products for the common good. Years ago, it was seen to be the responsibility of extension, but this is far more than extension.
- This philosophy is changing promotion and tenure policies. Economic development is written into the mission statements of many universities. Some high-level administrators have "economic development" in their titles.
- There are many other things in the public good besides economic development.
- The metric for economic development needs to be defined. Is it number of patents filed, how many technology transfers have occurred, other?
- Number of patents is a metric of something original that was granted but a poor indication of impact. Would a better measure of impact be number of technology-transfer transactions?
- The best metric is positive impact on quality of life, but how is it measured?
- Although it is essential for economic development to occur and to be a part of universities' programs, striking the right balance can be difficult ethically in terms of who assigns research priorities for faculty scientists with interests in IP, involved in start-up companies.

Question 3: Does biotechnology represent a new paradigm, or just a continuation of what land-grant universities have done?

- It depends on how biotechnology is defined. If the focus is on genetically modified crops then it is a new paradigm because public-perception issues are integral.
- Also, the time to develop a GM product is greatly increased because of regulatory strictures and the need to patent genes and new technologies.

- An obvious change is that before the 1980 Bayh-Dole Act, modifications to organisms couldn't be patented. There has been a huge proliferation of patents.
- If land-grant universities continue to focus on local problems for economic development, it will deplete international outreach efforts.

Question 4: How do we communicate the role agricultural biotechnology plays, not only in food, feed and fiber, but also in human health, energy, chemicals and the environment?

- In Europe they have tried to change the terminology.
- Demonstrating how important agriculture is in many areas of life beyond its traditional role may put it in a more positive light, with benefits for agricultural biotechnology.
- Agbiotech should be as transparent as possible.
- There is need for recognition by administration of the possibility that discoveries may contribute to economic development upstream.

SESSION 2

Question 1: What has the Cornell Agriculture and Food Technology Park (CAFTP) done right and what needs improvement.

- CAFTP has a flexible structure amenable for many purposes.
- It is managed by a corporation, therefore funds are not being diverted from the research-station budget.
- There is positive involvement of the community, which was engaged early in planning.
- It is unclear:
  - how long businesses can stay at the park,
  - what are the criteria for selecting tenants,
  - whether the necessary expertise is available,
  - whether the small faculty can keep ideas in the pipeline,
  - in bringing expertise in from outside, whether it is possible to compete successfully with other university parks,
  - whether transportation is adequate and if the distance to the Cornell main campus is problematical,
    - how capital will eventually be accumulated,
    - how many parks the area can support given the presence of other parks in the vicinity.
- Would it be easier to find resources within a larger area?

Question 2: Can CAFTP be replicated/modified for use at other universities?

- Yes, in that this park is, at least to some degree, a replicate of others; those involved in the planning visited other parks and implemented what seemed to work.

Question 3: What are the benefits/liabilities to the university of the CAFTP?

- It will help attract faculty and students and provide jobs for graduates.
- A job-training program at the local community college system would be mutually beneficial.
- Any financial losses will not directly affect the university; however, its reputation may be positively or negatively affected depending on the success of the park.

Question 4: What are the benefits/liabilities of having domestic/international collaborations between agtech parks?

- This will depend on the site of manufacture.
- NABC could play a role in facilitating interactions between parks.
- Complications may result from sharing proprietary information.
- Geneva needs a nearby airport.
- Collaborative projects moved elsewhere would give the impression of lack of commitment to the Geneva area.

It was recommended that CAFTP focus on community strengths: wine, value-added foods, and perhaps less on biofuels for example, which does not have a long-standing local base. Thus local investment may be encouraged through a PR campaign. The park may be marketed within the Syracuse/Rochester/Ithaca triangle. It is important to create a web of interactors; for example, advantage should be taken of the Johnson Business School on the Ithaca campus.

SESSION 3

Question 1. What are the negatives of a land-grant university focusing on economic and workforce development?

- It is unclear how the economic development mission will be viewed along with teaching, research and extension in the tenure process. Will impact on economic development be given equal weight as number of publications, grants obtained and teaching contributions?
- Workforce development is a component of teaching, whereas economic development is different.

- There may be intra-departmental conflict if some faculty members are more entrepreneurial than others.
- Will university faculty suffer identity crises? Can a university faculty member be an academic and an entrepreneur simultaneously?

Question 2: What are the barriers to economic and workforce development that will be encountered and how can they be overcome?

- There are few such barriers in today's climate.
- Adding economic development obligations may overburden university faculty; that burden would be lessened by having a support system in place.
- There is a limit to the objectives that a university can address efficiently. A division of labor may be needed. If too much emphasis is given to economic development, then teaching, for example, may be compromised.
- Being involved with economic and workforce development might bring university faculty more into contact with the private sector, with positive influence on the educational mission and preparation of students for workforce entry.

It was recommended that the people who need education be engaged to a greater extent in the process. Although we are constrained by our history and environment, it is time to take a new look, to break through tradition-bound ways of educating and explore new technologies that will better capture the "Net" generation. Quality control is an important issue, but it shouldn't be a barrier to implementing a better model.

Question 3: How can a land-grant university balance the need for institutional revenue and the public good?

- The whole burden should not fall on the university, which would be problematic in today's resource-poor environment.
- Public support for public universities is declining, increasing the time faculty spend in seeking alternative sources of funding.
- The Wisconsin Alumni Research Foundation and the University Research Park in Madison, Wisconsin, provides a good example of balance.

Substantial funding was recommended so that land-grant colleges can address pressing societal issues—energy, human and environment health, *etc*.—not just new funding, but new directions from government sources to focus on creating new knowledge-bases and new capabilities. Only then can agriculture address new approaches for society's long-term benefit in addition to focussing on today's or near-term needs for product development and commercialization.